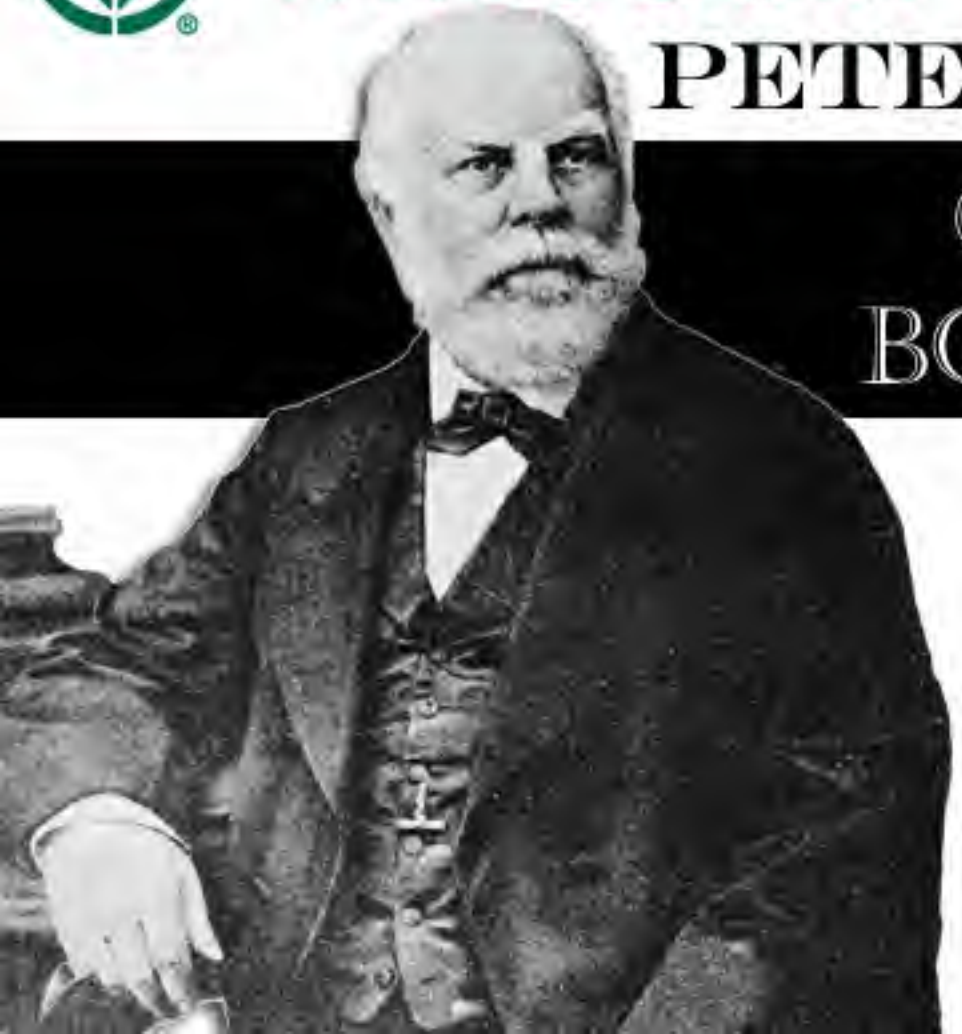
Missouri Botanical Garden
Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

14815

ENGELMANN, G.

NOTES ON THE CEREUS GIGANTEUS

(1852)

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Original fragmentation in Ben. V. Le Arts
is written in pencil at bottom of
pages

Cereus
1852
Ea 8t 1852

From the American Journal of Science and Arts, 2nd Series, Vol. XIV.—Nov., 1852.

Ea 210

NOTES

ON THE

CEREUS GIGANTEUS

OF

SOUTH EASTERN CALIFORNIA,

AND SOME OTHER

CALIFORNIAN CACTACEAE.

BY

DR. GEORGE ENGELMANN,
of St. Louis, Missouri.

IN Emory's *Notes of a military Reconnaissance*, published in 1848 by order of Congress, I have ventured, from the data furnished by Col. Emory, to describe one of the largest Cacti ever known. Since then several travellers have met with this giant of the Gila country, and have confirmed the extraordinary accounts of the first discoverer. But no further scientific details were obtained till Col. Emory, now again in those regions, as the chief of the scientific corps of the U. S. boundary commission, had occasion early this spring (1852) to send an expediton down the Gila river. Dr. C. C. Parry, who was connected with this party, paid particular attention to the Cacti of that region, and made it an especial object carefully to examine the *Cereus giganteus*. From his very full notes, kindly communicated by Col. Emory, I have completed the description of the plant, with the exception of the flower and fruit, the account of which rests as yet on the verbal information obtained by Dr. Parry.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS
MISSOURI BOTANICAL GARDEN.
33

CEREUS GIGANTEUS, *Engelm. in Emory's Rep.*, p. 158.—Erectus, elatus, simplex, sæpius parce ramosus; ramis erectis caule cylindrico versus apicem sensim attenuato brevioribus; vertice parum depresso lanato; costis ad basin 12 versus apicem 18–20 rectis compressis obtusiusculis (versus basin obtusissimis) subrepandis; sinubus profundis angustis; areolis prominentibus orbiculatis albido-tomentosis; aculeis rectis, radialibus 11–17 brevioribus setaceis albis, centralibus 6 robustioribus longioribus (quorum imus robustissimus deflexus) tenuiter sulcatis albidis basi bulbosa nigris apice rubellis; floribus.... bacca... seminibus oblique obovatis nigris lævibus lucidis.

Dr. Parry found this splendid species, which the Indians name "Suwarrow," in rocky crevices and on gravelly table lands, from Tueson, north to the Rio Gila; he learned that it also occurs in Central Sonora, near the heads of streams which empty into the Gulf of California. Col. Emory observed it in 1846, from the middle towards the lower Gila; and Dr. LeConte, who explored California in 1850, informs me that he found it "common along the Gila to within thirty miles of its mouth, where it suddenly disappears." It is no doubt the same plant of which Humboldt makes mention in his work on New Spain, (II, p. 225,) where he says that the Spanish missionaries found at the foot of the Californian mountains nothing but sand or rocks, on which grew a cylindrical Cactus (Organos del Tunal) of extraordinary height.

Stems 25 to 60 feet high and 1 to 2 feet in diameter, not absolutely cylindrical, but thickest about the lower third, where generally the few (mostly 2–3) alternate or sometimes opposite branches start, and from thence slightly tapering toward the summit. Stems and branches marked by superficial transverse furrows, indicating, as it seems, the annual periods of growth, forming rings of 4 to 8 inches in height. Branches unequal, and always of less height than the main stem, mostly 5–10 feet long, with 12–18 ribs.

The stem consists of an exterior fleshy substance, 3–6 inches in thickness; this encloses a circle of bundles of ligneous fibres, corresponding with the intervals between the ribs; these bundles are of a loose texture, but tough and elastic, and form continuous columns or sticks of one-half to three inches in diameter, frequently anastomosing, increasing in thickness towards the base, and swelling into irregular, knotted, horizontally spreading roots. This frame-work remains after the decomposition of the fleshy parts. The exterior fleshy tissue passes between the bundles and forms in the centre of the stems the pith, of 4–6 inches diameter.

The ribs are mostly vertical, at the base about 12 in number, broad, rounded, 4 inches or more wide, with broad and shallow intervals, (also 4 or 5 inches wide,) worn, and destitute of spines.

336

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Upwards, the number of ribs increases by bifurcation, or additional ribs originate in the intervals. There the ribs are "sharply rounded," 1½ inch wide, with deep intervals, 2¼ inches wide, densely set with spines. Areolæ somewhat elevated, circular, one inch distant from another. Radiate spines ½–¾ inch long; central spines stouter and longer; the lowest deflexed, 1½–2½ inches long, the two next lateral, the three upper ones pointing upwards and outwards, and shorter.

Dr. Parry was informed that the flowers were produced in May and June, from the summit of stem and branches; they are said to be white, with a red centre, and three inches in diameter. The fruit matures in August, and is set with small spines: it is obovate, one and a half inches in diameter, red, pulpy, of sweet taste. The seeds obtained by Col. Emory and by Dr. LeConte have already been noticed in Emory's Report; they are 0·7 lines long, obovate, obliquely truncate at base, black, smooth, shining. Embryo hooked, without an albumen; cotyledons foliaceous, unequal, incumbent.

My opinion that our plant is a true *Cereus* and not a *Pilocereus*, which was based on the structure of the seeds (the foliaceous, not globose cotyledons), appears to be further confirmed by the fact that this Cactus bears no hair-like spines, and no *cephalium*, or distinct woolly head, and that the fruits are (as is said) spinulose and not scaly. It is by far the largest *Cereus* known; and only some *Pilocerei* approach it in size.

The only *Cactaceæ* thus far known to grow in California were those vaguely noticed by Humboldt (the "Organos del Tunal" and some Opuntiæ); the *Echinocactus viridescens* and *Cereus Californicus* discovered by Nuttall in 1834; the Cacti found on the Gila by Col. Emory in the fall of 1846 and mentioned in his report; *Mamillaria Goodrichii*, lately described by Scheer, of Kew, and *Echinocactus Californicus* of Monville.

Dr. Parry has in the years 1849 and 1850, when he was also attached to Col. Emory's corps in the survey of the Mexican boundary, examined and described ten or eleven distinct species of Cactaceæ, all found along the southern boundary of California, from the sea-coast to the mouth of the Gila. He, as well as Dr. LeConte, states that much farther to the north no species of this family are found, except an Opuntia, cultivated and now naturalized about the missions.

I subjoin here a short memorandum of Dr. Parry's Californian Cactaceæ, reserving a fuller description for a more extended memoir.

1. Mamillaria tetrancistra, n. sp.: subglobosa; aculeis radialibus brevibus albis numerosis, centralibus 4 longioribus cruciatis uncinatis; floribus centralibus parvulis flavido-rubellis; stig-

337

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
Missouri Botanical Garden

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN